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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ERICSSON INC.
6300 LEGACY DRIVE
M/S EVR C11
PLANO, TX 75024

EXAMINER	
SCHEIBEL, ROBERT C	
ART UNIT	**PAPER NUMBER**
2666	

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/742,857	FONDEN ET AL.	
	Examiner	Art Unit	
	Robert C. Scheibel	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 7/29/2005 is acknowledged.
- Claims 1-3, 5, 7-8, 10-12, and 16-18 have been amended.
- Claim 20 has been cancelled.
- Claims 1-18 are pending.

Response to Arguments

1. Applicant's arguments, see pages 7-9, filed 7/29/2005, with respect to the rejections of claims 1-3, 5-6, 8, 11-12, and 18 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of U.S. Patent 6,917,617 to Jin et al.

2. Applicant's arguments, see pages 9-10, filed 7/29/2005, with respect to the rejection of claims 7 and 16 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of U.S. Patent 6,917,617 to Jin et al.

3. Applicant's arguments, see pages 9-10, filed 7/29/2005, with respect to the rejection of claims 9 and 13-15 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of U.S. Patent 6,917,617 to Jin et al.

4. Applicant's arguments, see pages 9-10, filed 7/29/2005, with respect to the rejection of claims 4, 10, and 17 under 35 U.S.C. 103(a) have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of U.S. Patent 6,917,617 to Jin et al.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims **1-8, 11-12, 16, and 18** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,917,617 to Jin et al.

Regarding claims **1, 11, 16, and 18**, Jin et al discloses:

A method of providing a defined quality of service (see title and abstract) in a packet switched communication system having a plurality of interconnected nodes (the SSG and the Internet of figure 3) for forwarding of data packets, wherein the plurality of interconnected nodes includes an edge node (the SSG of figure 3; see lines 36-41 of column 4 for a description of how the SSG acts as an edge router) and a plurality of interior nodes (the nodes comprising the internet), wherein the edge node connects to user equipment (see figure 3) or to a further communication system, processes data packets having a data field specifying a handling of the packets (see lines 41-43 of column 4 for example), and forwards the processed data packets to the interior nodes (see lines 36-41 of column 4), wherein the plurality of interior nodes form a core network through which data packets received from the edge node are forwarded toward a

destination (well-known that the internet is comprised of a plurality of nodes and that the packets have a destination), said method comprising: connecting the edge node to a data base (the AAA server of figure 3) that contains a user subscription (the user's service profile on the AAA – see lines 31-34 of column 4) for an identified user specifying a quality of service for the identified user (see lines 34-37 of column 4); providing the edge node with quality parameters from the identified user's subscription (see lines 34-37 of column 4); processing in the edge node, a data packet for the identified user by setting the data field specifying the handling of the packet according to the quality parameters from the identified user's subscription (see lines 41-43 of column 4); and forwarding the processed data packets by the interior nodes in the core network by performing a differentiated handling of the packets according to the data field set by the edge node (clearly, this is the point of the reference as evidences by the title; see also line 61 of column 1 to line 3 of column 2 which clearly indicates that the qos is set so that the internet will provide the appropriate level of service). Similarly, Jin clearly discloses the additional limitation of claim 16 that the unspecified bits in the differentiated services field are used to indicate quality of service in lines 4-7 of column 2, which indicates that other bits of the packet may be used instead of the DS precedence bits.

Regarding claim **2**, Jin discloses the limitation that the step of processing the data packet in the edge node includes changing the data field from a previously specified quality of service to a quality of service according to the quality parameters from the identified user's subscription in lines 41-43 of column 4.

Regarding claim **3 and 12**, Jin discloses the limitation the data packets are processed according to a protocol stack and the step of processing the data packet in the edge node includes

setting the data field according to information specified on a layer in the protocol stack (the information is retrieved from the AAA server using RADIUS which runs on top of UDP) of the edge node that is different from the layer evaluated by the interior nodes for handling the packets (the packets are handled by the nodes by the IP layer).

Regarding claim **4**, Jin discloses the limitation that the data field is changed in response to a traffic load in the system is implied from line 61 of column 1 to line 3 of column 2.

Regarding claim **5**, Jin discloses the limitation that the step of connecting the edge node to a data base includes connecting the edge node to a second node that connects to the data base, wherein the quality parameters from the identified user's subscription are forwarded from the second node to the edge node as follows. Jin indicates in lines 65-67 of column 3 that the AAA servers are disposed in various locations in the network and it is clear from the passage in lines 48-50 of column 4 that a roaming user can still connect indirectly (i.e. via one or more other nodes) to an AAA server and the method will still work.

Regarding claim **6**, Jin discloses the limitation that the data packets are IP packets and the field is the DS field in lines 41-43 of column 4 and figure 1B.

Regarding claim 7, Jin discloses the limitation that the unspecified bits in the differentiated services field are used to indicate quality of service in lines 4-7 of column 2 which indicates that other bits of the packet may be used instead of the DS precedence bits.

Regarding claim **8**, Jin discloses the limitation that the step of setting the data field specifying the handling of the packet according to the quality parameters from the user's subscription includes setting a plurality of bits that specify per hop behavior according to the

user's subscription in lines 41-43 of column 4. It is well known that the TOS field specifies the per-hop behavior of the packet.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim **9** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,917,617 to Jin et al in view of "Mobile IP and Wide Area Wireless Data" by La Porta et al.

Regarding claim **9**, Jin discloses the limitations of parent claim 1 as described in the rejection above. Jin does not disclose expressly the limitation of claim 9 that the database is a location register. However, it is well known in the art that the functions of an HLR and AAA server are similar and tend to be implemented as the same network element. For example, La Porta discloses the limitation of the AAA server (in Jin) being an HLR. See paragraphs 3-5 of

section IV A on page 1531 of La Porta. Jin and La Porta are analogous art because they are from same field of endeavor of IP networking and the placement of the AAA server within the network. At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement the AAA server of Jin in an HLR server. This would clearly be a typical implementation when the applying the invention of Jin to wireless networking as discussed in La Porta. The motivation for doing so would have been reduce the burden of distributing the set of authentication keys in the network as suggested by La Porta in the third paragraph of section IV A on page 1531. Therefore, it would have been obvious to combine La Porta with Jin for the benefit of minimizing the burden of the distribution of authentication keys to obtain the invention as specified in claim 9.

10. Claims **10 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,917,617 to Jin et al in view of RFC 2475 "Architecture for Differentiated Services" by Blake et al.

Jin discloses all the limitations of the parent claims 1 and 16 as discussed in the rejection under 35 U.S.C. 102(e) above. Jin does not disclose expressly the limitations of claims 10 and 17. Blake discloses the limitation of claims 10 and 17 that the node is provided with means to measure a traffic load (the meter of figure 1) and the data field is evaluated if the traffic load is above a threshold value (the marker and shaper/dropper components all receive feedback from the meter and section 2.3.3.1 suggests the use of a threshold in that an action is triggered based on whether a packet is in- or out-of-profile). Jin and Blake are analogous art because they are from the same field of endeavor of providing quality of service to individual packet flows. At

the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Jin to provide a meter as in Figure 1 of Blake and to mark and evaluate the DS field based on the state of the meter. The motivation for doing so would have been to act on packets differently depending on whether it is in- or out-of-profile as suggested in the first paragraph of section 2.3.3 of Blake. Therefore, it would have been obvious to combine Blake with Jin for the benefit of treating packet differently based on the current state of the flow (in- or out-of-profile) to obtain the invention as specified in claims 10 and 17.

11. Claims **13-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,917,617 to Jin et al in view of U.S. Patent 6,661,782 to Mustajarvi et al.

Jin discloses all the limitations of the parent claim 11 as discussed in the rejection under 35 U.S.C. 102(e) above. Jin does not disclose expressly the limitations of claims 13-15. Mustajarvi discloses a network in Figure 1, which has an HLR (home location register) as a database containing subscriber data (see lines 52-55 of column 8 as well), and edge nodes BSC1 and SGSN1, which are at the edge of the radio and the backbone networks, respectively. This network structure teaches the limitation of claim 9 that the database is a location register (the HLR is the database). It also discloses the limitation of claim 13 that the edge node is an SGSN as the SGSN of Figure 1 is an edge node similar to the edge node of Jin. Further, this figure discloses the limitation of the edge node being both a control node (as emphasized in lines 8-12 of column 8) and a node for processing packets (it forwards packets to the core network of Figure 1). Finally, this network structure also discloses the limitations of the edge node being a radio network controller in that the BSC is an edge node fully capable of implementing the

functionality of the edge node of Jin. Jin and Mustajarvi are analogous art because they are from the same field of endeavor of packet data networks. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the invention of Jin in the network structure of Mustajarvi. Jin notes in lines 45-53 of column 5 that the structure presented in the document is for illustrative purposes only and that the invention could easily be applied to many other embodiments. The motivation for applying Jin's invention to the wireless packet data structure of Mustajarvi would have been to apply quality of service to the packets in a wireless packet data network (much the same as the motivation for Jin's invention in the embodiment shown as stated in lines 32-38 of column 2). Therefore, it would have been obvious to combine Mustajarvi with Jin for the benefit of applying quality of service treatments to flows in a wireless packet data network to obtain the invention as specified in claims 13-15.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 571-272-3169. The examiner can normally be reached on Monday and Thursday from 6:30-5:00 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert C. Scheibel
Examiner
Art Unit 2666

DANG TON
PRIMARY EXAMINER